FSA Modernization Partner

Business – Technology Alignment
Phase III Business Case

Version 1.0

Business-Technology Alignment
September 2002

BUSINESS CASE

Project Name: **FSA Business-Technology Alignment (BTA) – Phase III**

Channel: **CIO**

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PROJECT DESCRIPTION

The FSA Business-Technology Alignment (BTA) initiative is split into three phases. Phase I defined the BTA organization and processes updated the IT Guiding Principles and developed a Technology Infrastructure Blueprint. Phase II enabled FSA to execute and support the BTA organization and processes with enterprise-wide participation. Phase II also provided FSA with the organization, supporting tools and operational and repeatable processes to ensure FSA projects used technologies that clearly supported and are driven by the FSA business priorities.

Phase III will provide FSA with an enterprise architecture and process for its management. Phase III will facilitate and enhance the BTA processes carried out through the Architecture Working Group (AWG) and the AWG Support Group (ASG). The BTA process will coordinate and support contacts with external organizations including oversite agencies, the Department of Education, and other external organizations, regarding the enterprise architecture and other IT governance issues. Phase III will promote the use of technical standards adopted by FSA, through documentation, communication, and the BTA processes to realize cost savings. The project will consist of the following high-level tasks:

1. Implement an enterprise architecture and management processes, which includes:

    - Continue to populate, validate and maintain the information in the enterprise architecture management tool;
    - Document reporting requirements and develop HTML reports;
    - Procure additional tool licenses, tool maintenance and vendor training;
    - Develop a process flow of how and when the information in the tool will be maintained and updated;
    - Implement and support the BTA process to manage the FSA enterprise architecture;
    - Develop and execute a tool communication strategy.

2. Coordinate and support contacts with external organizations regarding the enterprise architecture, which includes:

   - Compose reports and responses to government (OMB, OIG, OAG, Dept of Education) inquiries related to the FSA enterprise architecture;
   - Develop requirements and technical product to export the FSA enterprise architecture contents to be inserted into the Department of Education's enterprise architecture.

3. Facilitate and enhance the BTA processes, which includes:

   - Coordinate and support the AWG and ASG as they implement the BTA process;
   - Research nonstandard technologies that may meet business needs;
   - Enhance the BTA process to more effectively align technology decisions to the FSA business needs.

4. Promote the use of technical standards adopted by FSA, which includes:

   - Maintain the FSA Technology Policies, Standards, & Products Guide, the FSA Technology Infrastructure Blueprint, and the TIB Web Site;
   - Develop a communication strategy for marketing the BTA products to FSA and Mod Partner project teams;
   - Assist with redesigning the Technology Handbook to update and enhance content and convert documents into HTML documents;
   - Develop the business case for continued support.

Describe the need for change (the business problem to be addressed).

Presently, there is not a single repository for information and artifacts describing the FSA enterprise architecture. Not having a clearly defined enterprise architecture repository, that provides an integrated view of data, business function, security, network, people, schedule and strategy at different levels of abstraction, makes decision making difficult because of the absence of an enterprise wide framework. This integrated view would enable a thorough analysis of capabilities and needs along with a detailed knowledge of the impact any change would have on the organization. This integrated view would be provided through an enterprise architecture. The enterprise architecture is also necessary for reporting FSA's architecture to external agencies. This reporting is required for compliance with legislated mandates, with budget process requirements, and for communicating to interested stakeholders, the current and target FSA enterprise architecture. The construction and management of the enterprise architecture is done through a tool specifically designed to capture and render the artifacts of the enterprise architecture.

FSA experiences many interactions with external organizations and stakeholders regarding its enterprise architecture and IT governance. This is occurring with increased frequency as the federal government places focus on aligning business capabilities with technology solutions. FSA is expected to comply with the Clinger-Cohen Act of 1996. FSA is also audited by external oversite organizations, which examine FSA to ascertain whether it has an enterprise architecture that is used to ensure business and technology alignment. FSA also must engage in dialog with the Department of Education to ensure the integration and common vision of the departments enterprise architecture as it impacts FSA. With support and coordination of the contact that FSA has with oversite agencies, the Department of Education, and other external stakeholders, FSA can comply with external requirements, have its interests communicated, and market its business and technology capabilities.

BTA presently facilitates a repeatable process to ensure that technology related decisions are driven by business needs and priorities and that new development efforts are following FSA's technology standards. BTA processes help address the risk of implementing solutions that do not follow adopted technology standards, do not integrate, or do not directly support a clearly defined business need. Not following the enterprise technology standards poses the risk of increasing the complexity and cost of implementing and maintaining FSA's applications. Projects that incorporate non-standard FSA technologies may incur additional cost to develop, test, integrate, maintain, operate and staff the solution.

FSA's technology architecture and standards reviews are performed on an ad-hoc basis without a well-documented process to follow. Lack of consistent and repeatable processes has led to an inconsistent approach to technology-related decisions. It has also resulted in an increased number of different technologies being used, which has increased complexity and cost of maintaining and operating the solutions.

By continuing to implement the BTA organization and processes, FSA will benefit in the following areas:

- Support FSA architecture planning and leveraging of existing capabilities;
- Technology and business alignment and management;
- Business relevancy of technology decisions;
- Compliance with external requirements;
- Productive working relationships with external stakeholders;
- Budgetary control;
- Communication effectiveness.

Business Relevancy

The BTA organization and processes facilitate a dialogue and promotes an understanding of the business impact of technology architecture decisions for the entire enterprise. Direct

involvement and buy-in of business leadership in technology-related decisions and the tools necessary to support the decisions ensures that technology investments are efficient and tied to business drivers.

The BTA organization will construct and populate an enterprise meta-model which provides an integrated view of data, business functions, security, people, network, schedule & strategy. The enterprise architecture establishes a common view for business and technology planning that drives toward the target architecture.

Compliance with External Requirements

The BTA organization and processes help ensure compliance with the requirements of the Clinger-Cohen Act. Pursuant to the Clinger-Cohen Act of 1996, the Office of Management and Budget (OMB) issued a memorandum to the Executive Departments and Agencies providing direction regarding investments in major information systems. Included in that guidance were two key concepts applicable to BTA. OMB directed that IT investments should:

a. Support core/priority mission functions that need to be performed by the Federal Government;

b. Be consistent with Federal, agency, and bureau information architectures that integrate agency work processes and information flows, and reflect the agency's technology vision.

The OMB, the General Accounting Office, and the Department of Education's Office of Inspector General have reinforced these requirements of FSA through recent audits. FSA will be expected to provide a cohesive rendering of the enterprise architecture that will be examined to determine FSA budget, policy, and other decisions.

Productive Working Relationships with External Stakeholders

Through the BTA organization and process, FSA can help ensure effective working relationships with external stakeholders with whom their organization's enterprise architecture interfaces. Realizing that FSA operates within a context of interdependency with other federal agencies and the Department of Education requires the definition and maintenance of productive relationships. Communication, dialogue, and documentation, of the FSA enterprise architecture, with external stakeholders establishes these working relationships and promotes a friendlier context within which FSA can operate.

Technology Alignment and Management

By incorporating BTA technology reviews and supporting documentation into the existing processes, FSA will better manage its application design efforts and ensure that the technology decisions made by projects are aligned with business needs and priorities. Adherence to a standard technology architecture eases the management and maintenance of FSA's applications as they are deployed. It also helps reduce costs and simplify maintenance by limiting the number of products supported while leveraging the amassed knowledge of standard products.

Budgetary Control

Implementing the BTA process will help FSA minimize costs of system development and operation through using standard technologies. Additionally, FSA will be able to reduce research, testing, and development costs associated with proposed solutions by leveraging the integrated technology standards and tools that have been tested and incorporated by other projects.

Communication Effectiveness

Implementing BTA will help coordinate technology standards with customers and partner organizations that are part of the modernization effort or that develop their own software. These customers and partners will have the ability to refer to FSA's strategic technology direction and target architecture to better position themselves to develop systems that integrate well with FSA.

What is the purpose of the initiative?

The purpose of this initiative is to ensure that IT investments support FSA's key business objectives and maintain business relevancy for technology related decisions.

The BTA – Phase III project will provide FSA with the following outcomes:

- Continue to build, populate, enhance and validate a meta-model within a tool to manage FSA's enterprise architecture;
- Continued repeatable processes for:
    - Making technology related decisions (e.g. introduction of new technology, changes to IT architecture);
    - Other technology architecture and standards reviews that have been incorporated into FSA's existing project review processes.

- Support for contacts with external stakeholders concerning FSA's enterprise architecture or IT management;
- Continued socialization of the processes and documents to promote stakeholder buy-in;
- Execution and on-going support for the BTA organization and processes;
- Updated Technology Infrastructure Blueprint and TIB web site published in the FSA CIO web space;
- Updated Technology Policies, Standards, and Products Guide published in the FSA CIO web space;
- Reporting to over site agencies (OMB, OIG, OAG, Dept of Education).

Scope of the Initiative

Phase III of the BTA initiative will provide FSA with the following services and support in implementing BTA and helping to maintain the integrity of its technology and infrastructure:

- Construct, populate, and validate a meta-model of FSA's enterprise architecture within a BTA tool;
- Continue to build buy-in and obtain support for the BTA organization and processes among the FSA business unit leadership;
- Maintain the Technology Infrastructure Blueprint and Technology Policies, Standards, and Products Guide documents, as well as, communicate IT standards to relevant stakeholders;
- Coordinate the Architecture Working Group (AWG), meeting schedules and agenda items;
- Support required technology analyses and business impact consideration by FSA's leadership when making IT investment decisions;
- Support the export of FSA's enterprise architecture components with the Department of Education;
- Select and secure resources for on-going operation of the BTA tool;
- Develop a business case for on-going support in follow-on years.

The BTA organization will not be responsible for projects making technical decisions and purchases that fall outside of the FSA technical standards and policies. This effort will also not include a technical interface to the Enterprise Architecture Management System (EAMS). This interface is expected to be addressed by the Department of Education.

Start Date and End Date

It is anticipated that this task order will run from November 1, 2002 until October 31, 2003.

What other business areas/external groups are affected by the implementation of this initiative and how are they affected?

FSA's BTA process will incorporate peer-group reviews of solution design, technology architecture and standards as part of FSA's Solution Life Cycle (SLC). The BTA organization and processes provide a forum for evaluation and decision-making on technology architecture related issues from a FSA-wide perspective. It will help ensure that decisions regarding the technology architecture are based on clear business drivers and priorities.

The BTA organization and processes are also linked to Enterprise Configuration Management (ECM) processes currently being defined as a separate initiative. BTA is focused on the FSA-wide architecture standards and changes, while the ECM process is more focused on individual project changes.

Key users of the BTA processes will include:

- FSA business units and project staff leadership;
- FSA IT staff;
- Modernization Partner staff.

For management information purposes, FSA's CIO, senior IT managers, and Department of Education CIO may also use the Enterprise Architecture and related documents.

What systems are impacted by the implementation of this initiative and how are they impacted?

There will be no initial changes to current systems as a result of this initiative. However, all new systems that are developed as part of future Modernization initiatives will need to adhere to the BTA processes, technology standards, and policies defined by this project.

Certain existing systems may provide data to the BTA supporting system (e.g. project management systems such as the ECM Rational tool to identify architecture standards and solution design data). The process requirements may be determined during this phase of the work.

What business processes are impacted by the implementation of this initiative and how are they impacted?

The FSA Decision Support Group, that falls under the Investment Management, and Solution Life Cycle (SLC) processes will need to be updated to incorporate the BTA peer-group review steps identified in this initiative. This will ensure that new projects are driven by clear business needs while adhering to the FSA technology standards and guidelines.

ENTERPRISE IMPACT

Technology related decisions based on Enterprise-wide priorities are expected to be the major impact of this initiative. No decisions are needed from Department to enable this initiative.

ACCESSIBILITY

Any materials published externally as part of this initiative will follow FSA's Accessibility Guidelines, and will comply with Section 508 requirements, as needed.

TECHNOLOGIES USED

The following proposed technologies will be used to implement this project:

Name/type	Proposed use	Has the technology been used at FSA before? Where?	Does Technology fit FSA's Architecture Standard? Explain.	Does FSA have the technical expertise to implement this technology? Why?
MS Office Suite	Artifact Capture	Enterprise wide	Yes	Yes
Popkin System Architect	Analysis and cross referencing of enterprise architecture components and products used across different solutions (as data modeling)	No	Yes. The selection of this technology was part of Phase II at which time, no FSA standard existed for enterprise architecture management tools.	Yes, training will have been provided in Phase II to FSA staff that will use the tool.

BENEFITS

Phase III of the BTA initiative is expected to provide the following benefits:

Reduce Unit Cost (HARD DOLLARS)

Quantified Benefit ($)	How will benefit be measured/realized?	When will benefit be realized?
Cost avoidance	Cost avoidance through eliminating duplication of effort, reuse of technology, and effective utilization of assets	Start accruing: 1st Qtr 03
Scale economies in purchase of software	Cost savings through reduced software costs achieved through volume deals	Start accruing: 1st Qtr 03
Reduced maintenance and training costs for new development efforts	The BTA processes will enable FSA to focus on obtaining technical skills in selected technologies versus having to manage a broad set of capabilities across a wide spectrum of custom integrated solutions	1st Qtr 03
Assumptions		

Increase Customer Satisfaction

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Increased customer satisfaction through improved understanding of impact of technology changes on business and improved alignment of technologies with business goals	Senior business involvement in technology related decisions would help ensure alignment with business goals. The Architecture Working Group (AWG) will provide a forum for discussion, understanding and communicating the impact of technology changes on the FSA. business units	1st Qtr 03
Ability to deploy new applications faster	Using a standard technology framework and repeatable processes will help reduce the effort for selection and integration associated with non-standard technologies	1st Qtr 03

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Ease of coordinating standards with partner organizations (i.e. ELM, NCHELP) and Schools that develop their own software	Coordination of technology standards with partners will provide a unified view of technology. It will enable partners to understand FSA's strategic direction and vision, and help them to develop their systems for integration with FSA	2nd Qtr 03
Assumptions		
Senior business management involvement through the Architecture Working Group (AWG) and the IRB/MC will continue; Technology peer-group review processes are systematically conducted for all new projects.		

Increase Employee Satisfaction

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?
Efficiency in work through reusability of knowledge and components	By maintaining a central repository of enterprise architectures and standards, FSA will have the ability to reuse solutions on multiple projects	3rd Qtr 03
Improved knowledge of technology standards and enterprise-wide impact of technology related decisions	Use of BTA will continue to communicate and improve cross-project technology related decisions	1st Qtr 03
Availability of a standard technology vocabulary	The BTA through the Technology Policies, Standards & Products Guide will continue to provide a standard vocabulary and reference about IT to facilitate communication	1st Qtr 03
Assumptions		

OTHER COST BENEFITS:

Include Avoidance of Future Costs, Reduction to any Non- FSA entity's costs and Other Unquantified Benefits.

Quantified/Qualitative Benefit	How will benefit be measured/realized?	When will benefit be realized?

Increased interoperability of FSA systems	Adhering to enterprise technology standards and policies will help systems integration and interoperability	1st Qtr 03
Comply with Clinger-Cohen Act of 1996	Implementation of the BTA organization and processes, and their integration into with FSA's existing SLC processes	1st Qtr 03
Assumptions		

Estimated overall dollar amount of all benefits listed above.

Quantified Benefits					
BY	BY+1	BY+2	BY+3	BY+4	Total
$320,000+	$320,000+	$320,000+	$320,000+	$320,000+	$1.6+m
Assumptions					
Improvement in cost effectiveness of all modernization efforts and ongoing operations costs by a minimum of .5% (one-half of one percent). This amounts to over 320k per year, assuming a Modernization budget of approximately $64m per year. Examples of achieved during the Modernization program include: • Cost avoidance through reduced duplication of effort – EAI development environment: $500k; • Cost avoidance through effective utilization of assets – server consolidation: $35k per month; • Reduced software costs through volume deals – Oracle: over $5m.					

COSTS

Provide costs, including those to implement the initiative and the costs to support it over its useful life.

	BY FY03	**BY+1 FY04**	**BY+2 FY05**	**BY+3 FY06**	**BY+4 FY07**
Populate, validate and maintain the information in the EA tool.	232,000	100,000	70,000	70,000	70,000
Develop 4-6 reporting requirements and HTML reports	54,000	54,000	54,000	54,000	54,000

Acquire 2 additional tool licenses, SW maintenance and training	25,000	0	0	0	0
Develop and support the BTA process flow to manage the information in the FSA enterprise architecture	100,000				
Develop and execute project tool use and communication strategy plan	116,000				
Prepare reports and responses to government EA inquiries	58,000	58,000	58,000	58,000	58,000
Develop the requirements and technical interface from the FSA EA tool to the Dept of Education EA tool	187,000	0	0	0	0
Support for Architecture Working Group (AWG) and AWG Support Group (ASG)	81,000	81,0000	81,0000	81,0000	81,0000
Research the use of nonstandard technologies to meet business needs	39,000	39,000	39,000	39,000	39,000
Update the Technology Infrastructure Blueprint & the web enabled version of the TIB (3)	33,000	33,000	33,000	33,000	33,000
Assist with redesigning the Technology Handbook to eliminate non-relative and out dated content and converting the documents into HTML format.	47,000	10,000	10,000	10,000	
Update Technology Policies, Standards & Products Guide (3)	18,000	18,000	18,000	18,000	18,000
Develop Business Case for continued support	10,000	10,000	10,000	10,000	10,000
TOTAL	**$1,000,000**	**403,000**	**373,000**	**373,000**	**373,000**

Assumptions

TOTAL COST OF OWNERSHIP

What is the level of required enhancement after implementation?

An operations budget will be required for execution of the BTA processes, for operation and maintenance of the support tools, and maintenance of the Technology Infrastructure Blueprint and Technology Policies, Standards & Products Guide.

What is the life span of this initiative?

BTA-Phase II is planned to span the period September 1, 2002 to October 31, 2003.

ALTERNATIVES

Discuss what could be done in place of this initiative and describe the consequences of each alternative.

Alternative	Consequence
Remain as-is	- Reduced ability of FSA executives to effectively manage technology changes leads to inefficiencies due to mismatched technologies, and increased costs. - Lack of repeatable processes will continue to foster imprecision in FSA's current development activities, which is a significant cost multiplier for every application. - FSA will not achieve increased compliance with Clinger-Cohen Act, potentially leading to Congressional oversight and funding loss.
Non-technology solution	Manual maintenance of ITA will be labor intensive, and will detract from achieving consistency and accessibility to technology architecture standards across FSA, leading to increased unit costs.
Enhance an existing system	None available.
Implement on a smaller scale	The business and CIO/IT organizations need to be full participants in BTA. Restricting BTA to only the IT organization will limit the benefits and will not continue to address the key objective of obtaining full FSA-wide business perspectives in technology related decisions.
Other	

RISKS

Risk	Description of Risk	Mitigation Strategy
Financial	The integration between the FSA EA tool and the Department of Education tool may turn out to be more expensive, or the implementation may be more complex and costly than planned.	- Leverage existing tools wherever possible - Manage scope of functionality requirements to help minimize costs
Technology		
Scope		
Management	Insufficient involvement of appropriate senior business executives.	Obtain buy-in and sponsorship of FSA business unit GMs.
Exposure	High exposure to FSA leadership and project sponsor if major technology decisions prove to be wrong. As the first Federal PBO, the visibility of FSA as it attempts to successfully achieve its Modernization Blueprint objectives is extremely high	A sound continuing BTA process enhances early recognition and avoidance of risk. Risk is dealt with early in the project when costs, correction or mitigation are much lower. FSA executive management must approve and closely coordinate the development of the enterprise-wide BTA approach

Acquisition Strategy

Sources:

Indicate the prospective sources of supplies or services that can meet the need of this project. List the most likely offerors for the requirement, and/or the manufacturer and model of the equipment that will most likely be offered.

Most suitable sources are:

- Modernization Partner

Competition:

Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition, including any performance requirements that will be required.

Contract Considerations:

For each contract contemplated, discuss contract type selection; use of multiyear contracting, options, or other special contracting methods, ex: performance-based.

Schedule/Milestones (including acquisition cycle)

#	Planned Schedule & Milestones	Start Date	End Date
1	Populate, validate and maintain the information in the EA tool	Nov. 1, 2002	Mar. 15,2003
2	Document reporting requirements and develop HTML reports;	Jan. 15, 2003	Mar. 30, 2003
3	Acquire 2 additional tool licenses, SW maintenance and training	Dec. 1, 2002	Dec. 31, 2002
4	Develop and support the BTA process flow to manage the information in the FSA enterprise architecture	Jan. 2, 2003	Mar. 30, 2003
5	Develop and execute a tool project use and communication strategy	Feb. 15, 2003	May 23, 2003
6	Prepare reports and responses to government EA inquiries	Nov. 1, 2002	Oct. 31, 2003
7	Develop export requirements and technical product to upload the FSA enterprise architecture contents to be inserted into the Department of Education's enterprise architecture.	Feb. 15, 2003	Apr. 30, 2003
8	Support for Architecture Working Group (AWG) and AWG Support Group (ASG)	Nov. 1, 2002	Oct. 31, 2003
9	Research nonstandard technologies that may meet business needs	Nov. 1, 2002	Oct. 31, 2003
10	Update the Technology Infrastructure Blueprint & the web enabled version of the TIB (milestones)	Jan. 1, 2003 Apr. 1, 2003 Jul. 31, 2003	Jan. 31, 2003 Apr. 30, 200 Jul. 31, 2003
11	Assist with redesigning the Technology Handbook to eliminate non-relative and out dated content and converting the documents into HTML format.	Nov. 1, 2002	Jun. 30, 2003
12	Update Technology Policies, Standards & Products Guide (milestones)	Nov. 1, 2002 Feb. 1, 2003 May 1, 2003	Nov. 30, 2002 Feb. 28, 2003 May 30, 2003
13	Business Case for Continued Support of BTA	Aug. 3, 2003	Sept.03, 2003